

MSC Roof Solar Panels

Marshall Student Center

August 3rd 2016 to August 8th, 2017

Project Description

The Marshall Student Center is home to many of USF Tampa's signature events. The project started with creating a proposal by a student team for installing a 400kW DC solar photovoltaic panels atop Marshall Student Center (MSC) roof. The proposal was then funded by the Student Green Energy Fund council, followed by hiring a Construction Manager (CM), electrical engineers, and structural engineers. Students had the opportunity to work closely with the CM, and the project managers to learn the project management, design, and construction processes.

The intent of this project is to support USF President Judy Genshaft's commitment to the Climate Action Plan, and to the University's commitment to becoming carbon neutral. The solar array installed at the roof of the MSC building exists as a result of the USF students who support the Climate Action Plan objectives, signed by USF President Judy Genshaft.

Project goals

This project funded by the Student Green Energy Fund Council had multiple goals to achieve:

- a. Maximize the solar PV power generation opportunity on the roof of MSC, about 400kW.
- b. Create a name for USF as a leading institution in the State of Florida in producing clean energy.
- c. Provide educational and job opportunity to the students.
- d. Provide on-going information on power generation from the project.

Project results

The project goal initially was to install a solar array over the entire roof area, to produce about 400 kW of DC power. Due to the code compliance issues such as setback from the edge of the roof and other roof mounted equipment/structures, and elimination of a weaker section of the roof, fewer solar panels were installed. A total of 1045 solar panels capable of producing about 365 kW of DC power were installed. Each panel is capable of producing 350 watts and has dimensions of 3'x5'. The panels are installed at 10 degree angle to minimize wind lift from wind storms. Project also includes 5 inverters to convert DC power to AC. A dashboard monitor provides real-time data to students and visitors on the first floor of the MSC under the east stairs. Currently, all the power produced by the solar panels is consumed in the large MSC facility.

The project was finished under the proposed budget by over \$100K, due to the reduction in number of solar panels and the good financial management of USF Administrators. This project has resulted in a very educational outcome for the students, as they witness the power of the sun first-hand. The monitor

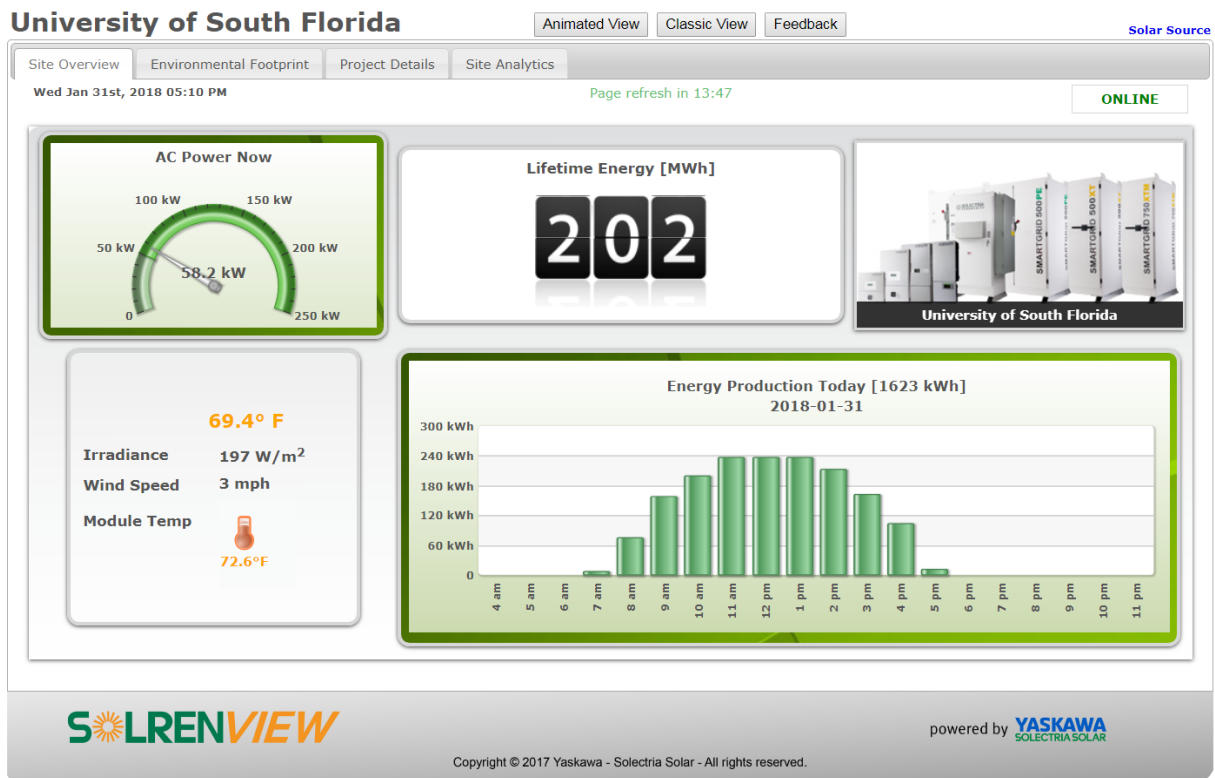
on the first floor of the MSC is maintained by MSC personnel, and the project's energy production is shown to everyone. Public viewing of the MSC's electricity production is also possible at the following website: <https://solrenview.com/SolrenView/mainFr.php?siteId=4911>

The project has produced 202,000 kWh to date, since energy production started being measured in September 2017. The project is expected to produce approximately 525,000 kWh per year, saving MSC about \$50,000 per year in electricity bill. So far, the amount of green electricity generated has amounted to 150 tons of CO2 emissions avoided. Annually, 391 tons of CO2 is expected to be avoided.

Pictures

Solar Energy Generation sample for January 31, 2017 real-time, as seen on the following website:

<https://solrenview.com/SolrenView/mainFr.php?siteId=4911>





Partners

Students involved in driving this project include John Pilz, Chi-Kai Hung, Jakob Hartung, Daniel Iglesias and Arunkumar Narasimhan.

The Marshall Student Center's staff made this project possible. Thanks to the efforts of Administrators like Sujit Chemburkar, Director of the MSC, the project made considerable progress.

Manhattan Construction, the Construction Management firm, contributed to making this project as seamless as possible for the students who interacted with the MSC and its services. Manhattan's due diligence made this project possible, conquering all the challenges of bringing this project to fruition.

Solar Source, the solar energy company based in Largo, Florida, leading the world in solar energy with its experts who empower others to make solar energy companies. This company is responsible for installing the solar panels on the roof of the MSC.

More Information

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Links to find out more:

Real-time Energy generation:

<https://solrenview.com/SolrenView/mainFr.php?siteId=4911>

The USF Oracle

<http://www.usforacle.com/news/view.php/1027782/USF-plans-to-place-1000-solar-panels-on->

<http://www.usforacle.com/news/view.php/1017594/Turning-green-into-gold>

MSC website

<http://www.usf.edu/student-affairs/msc/visit-the-msc/sgef.aspx>

SGEF

<http://usf.edu/sgef>